

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization International Bureau



(43) International Publication Date
28 July 2005 (28.07.2005)

PCT

(10) International Publication Number
WO 2005/069307 A1

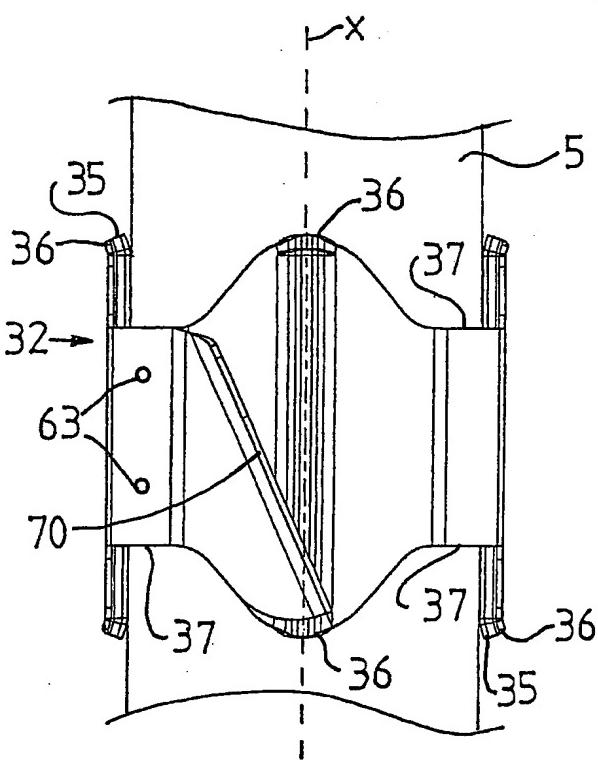
- (51) International Patent Classification⁷: G21C 3/322,
3/34 // 21/00
- (21) International Application Number: PCT/SE2005/000016
- (22) International Filing Date: 10 January 2005 (10.01.2005)
- (25) Filing Language: Swedish
- (26) Publication Language: English
- (30) Priority Data:
0400067-5 15 January 2004 (15.01.2004) SE
0400142-6 26 January 2004 (26.01.2004) SE
- (71) Applicant (for all designated States except US): WESTINGHOUSE ELECTRIC SWEDEN AB [SE/SE]; S-721 63 Västerås (SE).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): HELMERSSON, Sture [SE/SE]; Strandvägen 2, S-730 40 Kolbäck (SE). LARSSON, Leif [SE/SE]; Lejongapsvägen 37, S-722 46 Västerås (SE). NYLUND, Olov [SE/SE]; Ragnaröks-gatan 7, S-723 55 Västerås (SE). SÖDERBERG, Håkan [SE/SE]; Hermelinvägen 49, S-722 45 Västerås (SE).
- (74) Agents: BERGLUND, Stefan et al.; Bjerkens Patentbyrå KB, Östermalmsg. 58, S-114 50 Stockholm (SE).
- (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),

[Continued on next page]

(54) Title: A SPACER AND A FUEL UNIT FOR A NUCLEAR PLANT



WO 2005/069307 A1



(57) Abstract: The invention refers to a spacer for holding a number of elongated fuel rods (5) intended to be located in a nuclear plant, and a fuel unit with such spacers. The spacer encloses a number of cells for receiving a respective fuel rod extending in parallel to a longitudinal axis (x) of the respective cell. Each cell is formed by a sleeve-like member (32) having an upper edge and a lower edge. The sleeve-like member includes a number of abutment surfaces projecting inwardly towards and extending substantially in parallel with the longitudinal axis (x) for abutment to the fuel rod (5) of the cell. The lower edge (34) and the upper edge (33) have, seen transversely to the longitudinal axis, a wave-like shape with wave peaks (36), aligned with a respective one of said abutment surfaces, and wave valleys (37) located between two adjacent ones of said abutment surfaces (37).



European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

Published:

— *with international search report*